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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,553	11/28/2001	Sung-Won Lee	678-716	2837
28249	7590	12/15/2006	EXAMINER	
DILWORTH & BARRESE, LLP 333 EARLE OVINGTON BLVD. UNIONDALE, NY 11553			NGO, NGUYEN HOANG	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 12/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/996,553

Applicant(s)

LEE ET AL.

Examiner

Nguyen Ngo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 15-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-23 is/are allowed.
- 6) ☒ Claim(s) 1-12, 15-19, 24-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This communication is in response to the special amendment of 11/24/2006. Accordingly, Claims 1-12, and 15-28 are currently pending in the application.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 1-12 and 24-28 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claims 1-4, 5-7, 8-12, and 24-28 processes that do nothing more than solve mathematical problems or manipulate abstract ideas or concepts, which are complex to analyze. These claims are addressed herein.

If the “acts” of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. Benson, 409 U.S. at 71-72, 175 USPQ at 676. Thus, a process consisting solely of mathematical operations, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process.

In practical terms, claims define nonstatutory processes if they:

– consist solely of mathematical operations without some claimed practical application (i.e., executing a “mathematical algorithm”); or

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– simply manipulate abstract ideas, e.g., a bid (Schrader, 22 F.3d at 293-94, 30 USPQ2d at 1458-59) or a bubble hierarchy (Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759), without some claimed practical application.

Claims 1-12, and 24-28 are directed to the recitation of the mathematical algorithm disclosed in Figs. 2-5, pages 7-12 of the specification. Page 23 of the Interim Guidelines states, "when a claim applies a mathematical formula as part of a seemingly process, the examiner must ensure that it does not in reality seek patent protection for that formula in the abstract" (preemption). Also, as set forth in page 7 the algorithm is stored in a memory and executed by a processor, thus the claimed application in claim 24 is nothing but an algorithm. As is presented, the claims are directed to the recitation of an algorithm in the abstract. Further there is no practical application recited in the claims (page 20-22 of the Interim Guidelines) and the overall result is to calculate a value and nothing more.

Thus, 1-12, and 24-28 claims are also nonstatutory (Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, pages 20-23 and 58-59).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1, 2, 3, 15, 16, 17, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galand et al. (US 6188698), in view of Johansson et al. (US 2005/0044206), hereinafter referred to as Galand and Johansson.

Regarding claim 1, Galand discloses a queuing and transmission scheduling system and method for use in a multimedia network, that ensures a suitable quality of service for a wide range of applications (transmission of packet data having various quality of service, col2 lines 60-63) and further discloses classifying each of the plurality of connections as red or green depending on whether said each connection transmits excess traffic or not, so as to achieve a behavior classification of said plurality of connections (a method for classifying a service class for transmission of packet data (connection) service in a two-way communication network (packet switching network being bidirectional), col3 lines 9-14). Galand further discloses;

a counter for computing the total number of red packets queued in a connection queue associated with the given priority classes (measuring a total number of packet

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data (counter for computing) for a period of time (duration of connection) associated with a classification of service class (priority class), figure 5a and col8 lines 1-10 and col14 lines 45-49).

that if the counter (COUNT(i)) is greater then the red threshold (Red_Thr), box 540 is entered for declaring current connection as red (determining a parameter (outcome of inequality to be red or green) based on whether the measured number of packet data (counted packets) is larger than a threshold (Red_Thr) value associated with a two-way communication characteristic of the packet data transmission (red characteristic), col8 lines 7-10).

of declaring the current connection depending on the comparator (figure 5a) and marking packets as excess (red packets) or non-excess (green packets) (col6 lines 4-6).

Galand however fails to specifically disclose calculating a value used to classify the service class of the packet data using the parameter. Galand however discloses the need of giving priority to packets in order to minimize delays (col1 lines 25-35).

Johansson further discloses a method to achieve a dynamic resource distribution policy in packet-based networks in which traffic is monitored against a threshold (page 3 [0026] and page 4 [0032] and figure 5a) in order to determine resource excess or deficits for traffic categories (number of packets being larger to threshold corresponding to deficits). Johansson further discloses calculating new share values for traffic classes (calculating a value used to classify the service class of the packet data using the

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parameter (outcome of comparing to threshold), page 3 [0027] and page 3 [0029]). It would thus be obvious to incorporate the concept of further calculating share values for traffic categories as disclosed by Johansson into the method for use in a multimedia network, that ensures a suitable quality of service for a wide range of applications as disclosed by Gland in order to ensure proper load balancing and resource management for transmission of packet data.

Regarding claim 2, the combination of Galand and Johansson, more specifically Galand discloses the switching node implementing the method comprises a receive part which receives data flow entering the node and a transmit part which outputs data flow (col5 lines55-60) and further discloses the switching node having input and output links for receiving and transmitting packets originated from a plurality of connections from a wide range of applications (implemented over a forward link and a reverse link (network being bidirectional), col3 lines 5-8).

Regarding claim 15, Galand discloses a switching node that includes a flexible and efficient packet queuing and transmission scheduling system and method for use in a multimedia network, that ensures a suitable quality of service for a wide range of applications (a service class classifying apparatus for transmission of packet data having various quality of service, col2 lines 60-63) and further discloses classifying each of the plurality of connections as red or green depending on whether said each connection transmits excess traffic or not, so as to achieve a behavior classification of

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said plurality of connections (a method for classifying a service class for transmission of packet data (connection) service in a two-way communication network (packet switching network being bidirectional), col3 lines 9-14). Galand further discloses;

a counter for computing the total number of red packets queued in a connection queue associated with the given priority classes (main processor (counter) for measuring a total number of packet data (counter for computing) for a period of time (duration of connection) associated with a classification of service class (priority class), figure 5a and col8 lines 1-10 and col14 lines 45-49).

that if the counter (COUNT(i)) is greater then the red threshold (Red_Thr), box 540 is entered for declaring current connection as red (determining a parameter (outcome of inequality to be red or green) based on whether the measured number of packet data (counted packets) is larger than a threshold (Red_Thr) value associated with a two-way communication characteristic of the packet data transmission (red characteristic), col8 lines 7-10).

of declaring the current connection depending on the comparator (figure 5a) and marking packets as excess (red packets) or non-excess (green packets) (col6 lines 4-6).

of a switching fabric for routing the packet data traffic (figure 2 and col5 lines 40-42).

Galand however fails to specifically disclose calculating a value used to classify the service class of the packet data using the parameter. Galand however discloses the

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need of giving priority to packets in order to minimize delays (col1 lines 25-35).

Johansson further discloses a method to achieve a dynamic resource distribution policy in packet-based networks in which traffic is monitored against a threshold (page 3 [0026] and page 4 [0032] and figure 5a) in order to determine resource excess or deficits for traffic categories (number of packets being larger to threshold corresponding to deficits). Johansson further discloses calculating new share values for traffic classes (calculating a value used to classify the service class of the packet data using the parameter (outcome of comparing to threshold), page 3 [0027] and page 3 [0029]). It would thus be obvious to incorporate the concept of further calculating share values for traffic categories as disclosed by Johansson into the method for use in a multimedia network, that ensures a suitable quality of service for a wide range of applications as disclosed by Gland in order to ensure proper load balancing and resource management for transmission of packet data.

Regarding claim 16, the combination of Galand and Johansson, more specifically Galand discloses a selection and distribution (access adapters) for synchronizing data streams from a plurality of links (call admission control for controlling the entering flow from a connection), and for transmitting the synchronized data stream to the switch (policing the traffic in function of its compliance to the connection agreed to traffic descriptors, col5 lines 60-67).

Regarding claim 19, the combination of Galand and Johansson, more specifically Galand discloses determining whether the service class is symmetric or asymmetric by measuring the total number of packet data (col8 lines 63- col9 lines 17). Examiner interprets the measuring of the total number of packet data to correlate to the measuring of delay (the number of packets received during a period of time correlating to delay) to determine the four types of priority queues.

Regarding claim 3 and 18, the combination of Galand and Johansson fails to disclose the specific limitation of claim 3. Galand however discloses that it is important to provide the network components (node and links (being forward or reverse) with mechanisms that control the priority of the packets, and process them in order to guarantee the desired QoS to their corresponding connections (col1 lines 35-40). It would have thus been obvious to include the measuring of the total number of packet data transmitted over a forward link and a reverse link in order to efficiently provide the mechanism that control the priority of packets of a switching network (being bidirectional) through certain links.

Regarding claim 17, the combination of Galand and Johansson fails to disclose the specific limitation of claim 17. Galand however discloses that an access node (switch node implementing the discussed method) be designed for supporting the access of the user existing communication equipments with their corresponding protocols, and that it is essential to know the different requirements of each traffic in order to optimize the

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different processes (col1 lines 20-27). It would thus be obvious to incorporate a gateway for supporting transfer of protocol between different networks to efficiently and correctly transmit packets according to their requirements (protocol) in a switching node implementing the queuing and transmission scheduling system.

Allowable Subject Matter

7. Claims 20-23 are allowed.
8. Claim 20 is allowable over the prior art of record since the cited references taken individually or in combination fail to particularly disclose **measuring a number of detected packet data; dividing a jitter value by the measured number of packet data and determining a parameter based on whether or not the divided value is larger than a threshold value associated with traffic characteristic of the packet data transmission.** It is noted that the closest prior art Galand (US 6188698) shows a queuing and transmission scheduling system and method for use in a multimedia network, that ensures a suitable quality of service for a wide range of applications and further discloses classifying each of the plurality of connections as red or green depending on whether said each connection transmits excess traffic or not, so as to achieve a behavior classification of said plurality of connections. However the stated prior art fails to disclose or render obvious to the above underline limitations as claimed.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Khaunte (US 6546017), Technique For Supporting Tiers of Traffic Priority Levels In a Packet Switched Network.

b) Starr et al. (US 7120122), System And Method For Diagnostic Supervision Of Internet Transmissions With Quality Of Service Control.

12. Applicant's arguments with respect to claims 1-12, and 15-28 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen Ngo whose telephone number is (571) 272-8398. The examiner can normally be reached on Monday-Friday 7am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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